

# **EXHIBIT 4**

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**United States District Court  
Northern District of California  
San Francisco Division**

**Waymo LLC**

**v.**

**Uber Technologies, Inc.; Ottomotto LLC; Otto  
Trucking LLC**

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**Expert Report of Michael J. Wagner**

**August 24, 2017**

**Volume I**

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January 2017 Waymo presentation notes that Uber's TaaS share is "steady at ~85% across overall US market."<sup>718</sup>

358. A March 2015 presentation discusses the challenges entering the TaaS market, and focuses on the threat of Uber.<sup>719</sup> For example, slides discuss that "Uber is and will be extremely formidable...and will combat our entry into TaaS," and that "Uber can easily match price w/ current plan."<sup>720</sup>

359. Indeed, Waymo has reason to believe that Uber will indeed match its lower prices to avoid losing market share. When Uber was trying to gain market share in China, for example, it cut its prices dramatically to compete with the market incumbent, Didi Chuxing.<sup>721</sup> Prabir Adarkar, Uber's Head of Strategic Finance and acting CFO, testified that [REDACTED]

[REDACTED]<sup>722</sup> In fact, Uber's CEO Mr. Kalanick has stated that Uber spent over \$1 billion to compete with Didi in China.<sup>723</sup> In addition, Mr. Adarkar testified that [REDACTED]

[REDACTED]<sup>724</sup>

360. Another March 2015 presentation discussing Waymo's technological lead lists as an advantage that Waymo is focused on L4, but comments that "Uber and others are also L4 focused."<sup>725</sup> The next slide discusses competition, and the competitor called out specifically is Uber: [REDACTED]

<sup>718</sup> Waymo Review at AlphaFun, January 31, 2017, WAYMO-UBER-00032284-318 at '311. [7.3]

<sup>719</sup> Entering the TaaS Market, Chauffeur Strategy, March 19, 2015, WAYMO-UBER-00004175-194. [6.28]

<sup>720</sup> Entering the TaaS Market, Chauffeur Strategy, March 19, 2015, WAYMO-UBER-00004175-194 at '184-186. [6.28]

<sup>721</sup> Financial Times, "Uber makes a U-turn in China as subsidy war ends in Didi deal," August 1, 2016, <<https://www.ft.com/content/7f6e251a-5801-11e6-9f70-badea1b336d4>>, accessed August 24, 2017. [8.25]

<sup>722</sup> [Deposition of Prabir Adarkar \[rough transcript\], August 24, 2017, pp. 37-38.](#)

<sup>723</sup> Fortune, "Uber is Burning Through \$1 Billion a Year in China," February 17, 2016, <<http://fortune.com/2016/02/17/uber-china-didi-kuaidi/>>, accessed August 24, 2017. [8.26] See also Deposition of Prabir Adarkar [rough transcript], August 24, 2017, p. 38.

<sup>724</sup> Deposition of Prabir Adarkar [rough transcript], August 24, 2017, pp. 79-80.

<sup>725</sup> Chauffeur Strategy, Sustainable Tech Advantage, March 5, 2015, WAYMO-UBER-00032078-096 at '086. [7.4]

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specific duration for trade secrets, as they remain trade secrets as long as they are protected as trade secrets by the owner.

406. With respect to the term of the license, the hypothetical license would cover the period that the trade secrets are used by Uber. Given the primary benchmarks that I have been able to quantify specific values are based on incremental profit from the accelerated AV development time and saved development expenses, the term of the license does not have a significant impact on the hypothetical negotiation.

*(a) Implications of This Georgia-Pacific Factor Regarding a Reasonable Royalty*

407. This factor is neutral in the determination of the reasonable royalty.

**(8) Factor #8—the established profitability of the product embodying the trade secrets, its commercial success and its current popularity.**

*(a) Established Profitability*

408. For purposes of determining a reasonable royalty, the most relevant profitability data are the infringer's operating profit projections prepared around the date of the hypothetical negotiation.<sup>770</sup> Absent such financial projections, the infringer's *ex post* actual operating profit margins, as well as industry operating profit margin data, can be considered.<sup>771</sup>

**(i) Uber's profitability**

409. I have discussed Uber's incremental profitability projections produced by Ms. Qi in Section V.B.1.a, and I've used those projections as my baseline royalty. These incremental profit projections isolate the incremental value to Uber of accelerated AV development, such as

<sup>770</sup> *Hanson v. Alpine Valley Ski Area, Inc.*, 718 F.2d 1075 (U.S. Court of Appeals for the Federal Circuit, October 6, 1983), \*1081 at pp. 6-7. ("The issue of the infringer's profit is to be determined not on the basis of a hindsight evaluation of what actually happened, but on the basis of what the parties to the hypothetical license negotiations would have considered at the time of the negotiations. 'Whether, as events unfurled thereafter, [the infringer] would have made an actual profit while paying the royalty determined as of [the date infringement began], is irrelevant.'") (quoting *Panduit*, 575 F.2d, \*1164 at pp. 6-7). [8.17]

<sup>771</sup> John M. Skenyon, "Proving Patent Damages to a Jury" (absent projections by the infringer, the infringer's actual profits may be used for calculating reasonable royalty damages under the book of wisdom view) [2.20]; *Panduit*, 575 F.2d 1152, \*1164 at p. 9 ("The licensee-profit element is but one of the measures applicable . . . , and should be based on the customary profit allowed licensees in the industry at that time."). [8.7]

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that provided by Uber's misappropriation of Waymo's trade secrets. The Figures below summarize Uber's incremental profit projections based on the [REDACTED] assumptions made by Ms. Qi.

Figure 18: [REDACTED]

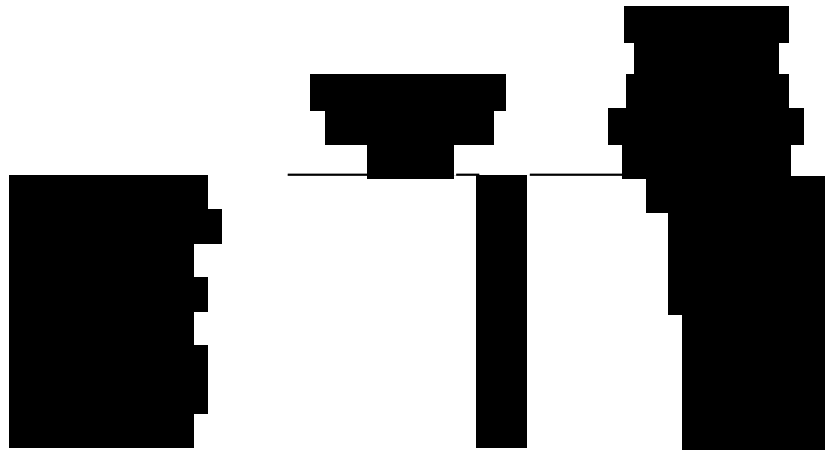
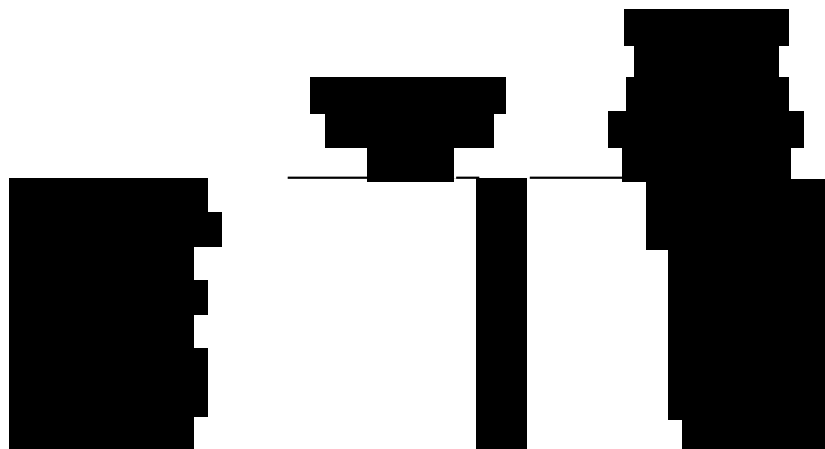


Figure 19: [REDACTED]



410. Ms. Qi's analysis was performed using Uber's Rubicon model in January 2016.<sup>774</sup> I'm not aware that Uber has produced its Rubicon model that matches to the version used by Ms. Qi, or earlier or later versions of the model. However, it appears that the version of the model used by Ms. Qi was Uber's model from November 2015 through May 2016. This period

<sup>772</sup> Schedule 2.0. [1.2]

<sup>773</sup> Schedule 2.3. [1.2]

<sup>774</sup> Email from Nina Qi to Cameron Poetzsch and Brian McClendon, January 16, 2016, UBER00069029. [5.8]

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includes the period of the date of the hypothetical negotiation and is evidence of Uber's expectation of profitability at that time.

411. For example, in Ms. Qi's presentation presenting the results of her analysis, she states that the [REDACTED]  
[REDACTED]<sup>775</sup> As I described in Section V.B.1.a), a May 20, 2016 Project Rubicon presentation includes a summary of the [REDACTED] which includes [REDACTED]  
[REDACTED],<sup>776</sup> which match up to the modeling that Ms. Qi performed in January 2016. Therefore, this presentation confirms that the Rubicon model Ms. Qi likely used remained the same from November 2015 through May 2016.

412. The May 20, 2016 Project Rubicon presentation states [REDACTED]  
[REDACTED]<sup>777</sup> Therefore, in May 2016, [REDACTED]  
[REDACTED]  
This evidence suggests that the [REDACTED]" assumption would be an appropriate assumption. A July 11, 2016 Project Rubicon presentation provides further corroboration that the [REDACTED]" is appropriate.<sup>778</sup> By July 2016, the month before Uber exercised its call option to purchase Ottomotto, the "[REDACTED]  
[REDACTED]<sup>779</sup> This number of cities launched dwarfs even the [REDACTED]  
modeling used by Qi, and that number of cities is achieved two years earlier. The same launch roadmap is also used in a September 2016 Project Rubicon presentation.<sup>780</sup>

413. Even though Uber hasn't produced the Rubicon models, given the [REDACTED]  
[REDACTED] in the Project Rubicon presentations over the December 2015 to August 2016 period, Ms. Qi's incremental profit analysis would likely understate the incremental profit numbers. The speeding up of the launch schedules also corroborates the reasonableness of the [REDACTED] scenario modeled by Ms. Qi.

<sup>775</sup> NewCo Review, January 2016, UBER00069030-033 at '033. [5.7] See also Email from Nina Qi to Cameron Poetzsch and Brian McClendon, January 16, 2016, UBER00069029. [5.8]

<sup>776</sup> Advanced Technology Center, Project Rubicon – 2019 Volume Recommendation, May 20, 2016, UBER00232549-575 at '571-574. [5.9]

<sup>777</sup> Advanced Technology Center, Project Rubicon – 2019 Volume Recommendation, May 20, 2016, UBER00232549-575 at '553. [5.9]

<sup>778</sup> Project Rubicon, July 11, 2016, UBER00063680-695 at '690, '692. [5.10] See also Project Rubicon, Project Overview, September 13, 2016, UBER00232488-514. [5.11]

<sup>779</sup> Project Rubicon, July 11, 2016, UBER00063680-695 at '690-693. [5.10] See also Project Rubicon, Project Overview, September 13, 2016, UBER00232488-514 at '512. [5.11]

<sup>780</sup> Project Rubicon, Project Overview, September 13, 2016, UBER00232488-514 at '512. [5.11]

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**(ii) Waymo's profitability**

414. As discussed in Section V.C.2, Waymo's September 2016 modeling indicates it expects [REDACTED]

[REDACTED]

415. Further, as discussed in more detail in Section V.C.6, [REDACTED]

[REDACTED]

[REDACTED]

416. Waymo's sensitivity analyses corroborate that Waymo would expect early entry by Uber to have a significant impact on Waymo's future profitability.

**(b) Commercial Success and Current Popularity**

417. At the time of the hypothetical negotiation, there were no commercial offerings of AV-based TaaS. However, Waymo had been testing its SDVs for several years, and numerous companies were racing to try to catch-up with Waymo, including Uber. As demonstrated by

<sup>781</sup> Chauffeur Plan 2017, AlphaFun Review, November 8, 2016, WAYMO-UBER-00031637-697 at '675. [6.27] See also WAYMO-UBER-00032541.xlsx, tab "Dashboard."

<sup>782</sup> Self-Driving Car Project Update, September 1, 2015, WAYMO-UBER-00031699-801 at '733. [5.12]

<sup>783</sup> Chauffeur Business / Product Update, AlphaFun, July 2016, WAYMO-UBER-00031818-960 at '842-843. [7.5]

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both Uber's and Waymo's modeling, the parties to the hypothetical negotiation expected a significant degree of commercial success. Given the Baseline Royalty is based on Uber's own incremental profitability projections for AVs, this aspect of *Georgia-Pacific* factor 8 does not have a significant effect on the royalty.

*(c) Implications of This Georgia-Pacific Factor Regarding a Reasonable Royalty*

418. Given the conservative nature of the "Baseline Coverage" used as the basis for the Baseline Royalty, both Uber's expected profitability and Waymo's expected profitability / reduced profitability from competition would tend to increase the royalty rate that would be concluded at the hypothetical negotiation as compared to the Baseline Royalty.

**(9) Factor #9—the utility and advantages of the trade secrets over the old modes or devices, if any, that had been used for working out similar results**

*(a) Utility and Advantages*

419. I discuss the trade secrets and the benefits provided by the trade secrets in Section IV.B.

*(b) Design Around*

420. I discuss Waymo's technical expert's opinions about design around time and Uber's own estimates of design around times in Section V.B.1.b). Also discussed in that Section is that these design around times form the basis of my calculation of the present value of Uber's incremental profit for accelerated AV development, which serves as my Baseline Royalty. Therefore, these design around times are already incorporated into the Baseline Royalty.

*(c) Implications of this Georgia-Pacific Factor Regarding a Reasonable Royalty*

421. This factor is neutral in the determination of the reasonable royalty.

**(10) Factor #10—the nature of the trade secret invention, the character of the commercial embodiment of it as owned and produced by the licensor and the benefits to those who have used the invention.**